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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RE APPLICATION OF:
H. Britton SANDERFORD, et al.

SERIAL NO: 10/662,530 GROUP: 2637

FILED: September 16, 2003 EXAMINER:

FOR: ENHANCED WIRELESS PACKET DATA COMMUNICATION SYSTEM,
METHOD, AND APPARATUS APPLICABLE TO BOTH WIDE AREA
NETWORKS AND LOCAL AREA NETWORKS

LETTER

Mail Stop DD
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith is an European Office Action for the Examiner's consideration. The reference(s) cited therein have been previously filed on September 16, 2003 and December 19, 2005.

Respectfully Submitted,

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Application No. 02 736 494.2 - 2415	Ref. SR 24013 HM	Date 08.06.2006
Applicant Advanced Metering Data Systems, L.L.C.		

Communication pursuant to Article 96(2) EPC

The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(1) EPC.

You are invited to file your observations and insofar as the deficiencies are such as to be rectifiable, to correct the indicated deficiencies within a period

of 4 months

from the notification of this communication, this period being computed in accordance with Rules 78(2) and 83(2) and (4) EPC.

One set of amendments to the description, claims and drawings is to be filed within the said period on separate sheets (Rule 36(1) EPC).

Failure to comply with this invitation in due time will result in the application being deemed to be withdrawn (Article 96(3) EPC).



Horbach, C
Primary Examiner
for the Examining Division

Enclosure(s): 4 page/s reasons (Form 2906)



Bescheid/Protokoll (Anlage)	Communication/Minutes (Annex)	Notification/Procès-verbal (Annexe)
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The examination is being carried out on the **following application documents:**

Description, Pages

1-72 as published

Claims, Numbers

1-254 as published

Drawings, Sheets

1/68-68/68 as published

Reference is made to the following documents:

- 12/19/05 filed* D1: GB-A-2 179 480 (NOTIFIER COMPANY) 4 March 1987 (1987-03-04)
on D2: US-A-4 843 613 (CROWLE ET AL) 27 June 1989 (1989-06-27)
D3: GB-A-2 330 261 (PLESSEY SEMICONDUCTORS LIMITED; MITEL
SEMICONDUCTOR LIMITED) 14 April 1999 (1999-04-14)
filed D4: US-A-4 977 577 (ARTHUR ET AL) 11 December 1990 (1990-12-11)
on *filed* D5: US-A-6 154 500
9/16/03 filed D6: US-A-5 966 411

- 1 This application contains 254 claims, but only 11 claims fees have been paid. Thus, in accordance with Rule 31(2) EPC, the European supplementary search report only covers the invention mentioned in claims 1 - 21, while claims 22-254 are deemed to be abandoned. For the same reason, the examination of the present application will only be directed to the invention mentioned in claims 1 - 21.

The Applicant is therefore requested to remove claims 22-254 and to restrict the description to correspond to the invention defined by claims 1-21 (Rule 27(1)(c) EPC).

The Applicant is also informed that the whole application as filed including the abandoned claims may form a basis for amendment (Article 123(2) EPC). However, amended claims may only relate to the first invention as only this invention has been searched (Rule 86(4) EPC).



The subject-matter to be excised may also be made the subject of one or more divisional applications. The divisional applications must be filed directly at the European Patent Office in Munich or its branch at The Hague and in the language of the proceedings relating to the present application, cf. Article 76(1) and Rule 4 EPC. The time limit for filing divisional applications (Rule 25(1) EPC) must be observed.

- 2 In view of the available prior art the subject-matter of claims 1-21 seems to fulfill the requirements of the EPC with respect to industrial applicability, novelty and inventive step (Articles 52(1), 54 and 56 EPC).
In addition to the required restriction of the application to the invention defined by claims 1-21, however, the following deficiency remains:
- 3 Claim 1 is not supported by the description (Article 84 EPC, EPC Guidelines C-III-6.3) because the skilled person would be unable on the basis of the particular example given in the application as published (figure 37; [0234-0236]), to extend the particular teaching of the description to the whole of the field claimed.
- 3.1 Figure 37 and paragraphs [0234-0236] show a transmitter with
- a 16-state QAM submodulator wherein two time shifted square signals (E220, E230) are multiplied by 4 different amplitude values {-3,-1,+1,+3} and wherein the amplitude modulated square signals are added (E260). The obtained signal (E290) codes the 4 bits of each 16-state QAM symbol into a sequence of 4 pulses, each one having one of 7 levels {-3,-2,-1,0,+1,+2,+3}; this signal is fed into a 7 level FSK modulator (E280) for transmission.
- 3.2 Claim 1 presents a generalization in defining that each 2^P -state QAM symbol is modulated to a P-length sequence of tones, each tone having one of M frequencies. Thus, the particular example is given for p=4.

Claim 2 defines $M=2^{P-1}-1$.

- 3.3 The skilled person would e.g. try extend the information given in figure 37 for p=6:



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this would lead to a QAM constellation having $2^6=64$ states and to 8 different amplitude levels $\{-7, -5, -3, -1, +1, +3, +5, +7\}$ for modulating the square waves. The obtained signal (E290) would code the 6 bits of each 64-state QAM symbol into a sequence of 4 pulses, each one having one of 15 levels.

This is however in contradiction to the definitions given in claim 1, because for $p=6$ claim 1 defines a sequence of $p=6$ (instead of 4) pulse; and the skilled person would not see a way to generate sequences of 6 pulses following the principles outlined by figure 37 and the corresponding description.

In addition, there is a contradiction to claim 2, which teaches $M=2^{6-1}-1=31$ (instead of 15) levels.

Thus there are two discrepancies between the definitions given in claims 1 and 2 and the extension of the teaching given in figure 37 with the corresponding description:

- (1) Based on figure 37, the square signals (E220, E230) representing the carriers of the QAM submodulator would always lead to sequences of 4 pulses at the output of the QAM submodulator. Claim 1 however defines sequences of p pulses.
- (2) The number of levels of the pulses in E290 are in contradiction to the number of levels defined by claim 2, except for the case $p=4$:

figure 37 shows: claim 2 defines:

$p=4$, 16QAM,	7 levels;	$2^{4-1}-1=$	7 levels;
$p=6$, 64QAM,	15 levels;	$2^{6-1}-1=$	31 levels;
$p=8$, 256QAM,	31 levels;	$2^{8-1}-1=$	127 levels;
$p=2$, 4QAM,	3 levels;	$2^{2-1}-1=$	1 level;

- 3.4 As claim 4 limits the scope of the claim to the particular case of $p=4$ and $M=7$ the subject-matter of this claim when combined with claim 1 on which it depends complies with the requirements of Article 84 EPC.
- 3.5 For the same reasons claims 9 and 10 are not supported by the description (Article 84 EPC); claim 12 when combined with claim 9 on which it depends complies with the requirements of Article 84 EPC.
Again for the same reasons claims 15 and 16 are not supported by the description (Article 84 EPC); claim 17 when combined with claim 15 on which it depends

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complies with the requirements of Article 84 EPC.

Moreover, the attention of the Applicant is drawn to the following remark:

- 4 The features of the claims should be provided with reference signs placed in parentheses to increase the intelligibility of the claims (Rule 29(7) EPC). This applies to both the preamble and characterising portion (see the Guidelines, C-III, 4.11).